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**THE PROPERTY**

—OF—

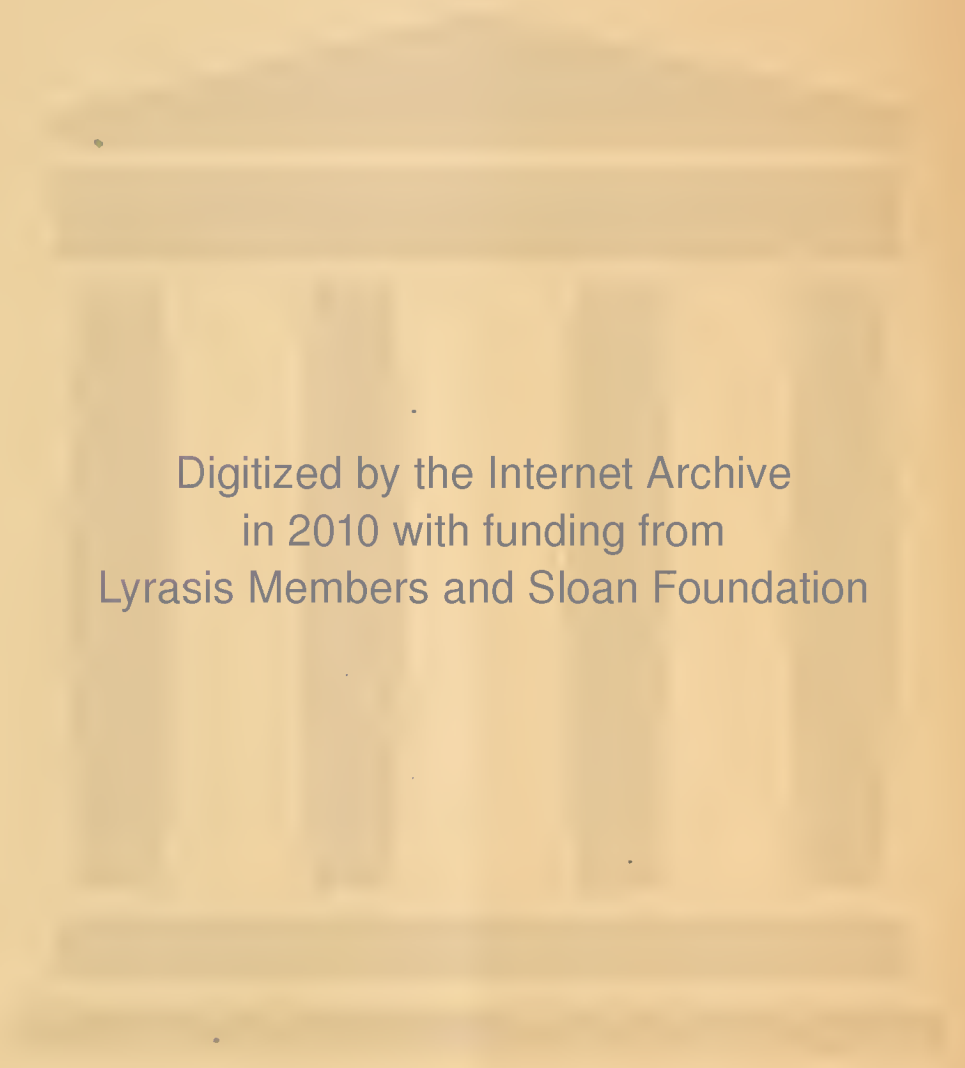
**The Courtenay Manufacturing Co.,**

**NEWRY,**

**Oconee County, S. C.**

**1893.**

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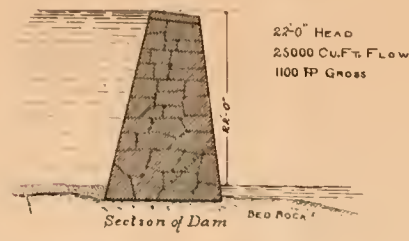


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MAP  
OF  
NEWRY SC  
PROPERTY OF  
THE  
COURTENAY MFG CO  
Oct 1893

LOCATED  
38 Miles from Seneca S.C. EASY.  
170 " " R. and D. Air Line  
— R.R.  
Water Pipes  
A = Reservoir for Fire and Sewerage  
B = " " Domestic Purposes (Natural Head)



22'-0" Head  
25000 Cu.Ft. Flow  
1100 TP Gross

Section of Dam  
Bed Rock

Scale; 0 50 100 200 300 400

W.B. SMITH WHALEY, ME.  
Columbia S.C.







THE PROPERTY  
OF  
THE COURTENAY MANUFACTURING COMPANY,  
NEWRY, OCONEE COUNTY, S. C.

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THE Stockholders will naturally wish to have a description of their property, and the condition of its development at this date, and for their information I make this report, rather than attempt to reply to individual inquiries:

Work was first undertaken, clearing the site, in May last, but it was not until July that any progress was made; it was in a sparsely settled and unfrequented corner of the county; labor had to be brought there, shelters built for them; in fact all the primitive conditions of the distant border had to be dealt with. machinery for brick making and other purposes had to be transported from distant points, one and a half miles of railroad must be graded and built; the time in receiving necessary machines and material, it is as well to note, took three, four, and, in some cases, five weeks after date of bill of lading; a commentary on the railway freight service of the country, and may account for so many unprofitable railroad properties.

THE MILL SITE.

is on Little River, water of Seneca River, on the southeast side of Oconee County, about two miles from the

Pickens County line. It is one and a half miles from the Charlotte and Atlanta Air Line Railway, and a turnout has been built there by the railway company, and all mill freights in carload lots have been put in the turnout at that point. It is 123 miles east of Atlanta, Ga., 70 miles west of Spartanburg, S. C., 40 miles west of Greenville, S. C., 25 miles north of Anderson, S. C., 10 miles north of Pendleton, S. C., and  $5\frac{1}{2}$  miles from Clemson College. A first-class railway track was built last summer connecting the mill site with the Richmond and Danville system of roads, and the heavy tonnage of material and supplies of all kinds have been transferred readily and at a great saving of expense. The Richmond and Danville Co. loaned a small locomotive for these transfers from the main line.

### THE PROPERTY

of the Company lies on both sides of the river, and the purchase included 350 acres of land; the whole water-power at this point; all the privileges for over-flowing, equal to the height of the dam; several natural springs of fine water, at an elevation, equal to its delivery in the village by gravity; the right of way 100 feet wide for the railway track.\* The price paid was \$10,000, and it has been capitalized at that figure. To secure certain desirable results, some additional land has been since purchased by the Company, not yet surveyed, but about 150 acres, at \$7.50 per acre.

### MATERIALS FOR MILL CONSTRUCTION.

The rock for the dam, wheel pits, and stone work of every kind; the clay for the bricks; the fuel for burning them; have all been utilized from the property of the

Company, and from in sight of the mill, at a minimum cost.

It thus appears, that this property has a rare combination of advantages, as may be seen by a personal inspection of the work done; the building is of brick, and presents an attractive appearance, and is certainly in strength and finish, one of the best specimens of brick masonry in the South.

### THE WATER POWER.

Little River has its sources in the foot hills of the Blue Ridge Mountains, and with its numerous tributaries, though small in size, drains an extensive area of territory largely covered with forests; this ensures a constant flow of water, even in seasons of protracted droughts; this feature of the river, is known as such, from the earliest settlement of this part of the State, and is highly valuable for mill purposes: presenting, as it does, the great advantage of a normal storage of water, at all times; avoiding the expense of creating a storage system.

The river at the lowest stage of water has a volume of one hundred feet in width, two and a half feet average depth; and a flow of one hundred and twelve feet, equal to a minimum of 25,000 cubic feet per minute, with a fall of twenty-two feet, giving a gross of eleven hundred horse-power, more than sufficient to run 30,000 spindles and 800 looms. The development of this water-power has been effected in solid stone work.

### THE DAM

is located at a bend in the river about one hundred and fifty feet above the north-east end of the Mill, as shown

in the map. It is built on convex lines, facing the flow of the river, and the ends rest on buttresses of solid masonry, with continuing retaining walls of stone, built out to high ground; this form of dam construction on the theory of the arch, gives the most effective strength to such structures.

The dimensions of the dam are: 140 feet on the outer curved line (the width of the river is here 115 feet); the height is 22 feet, above the normal level of the river, but to secure solid foundations the dam is from two to six feet deeper than the bed of the river, in a part of its extent. The buttresses rise to a height of 30 feet, eight feet above the crest of the dam; the continuing wall, on the east side, is six feet higher, than the crest of the dam; on the west side the buttresses are of like height, 30 feet, and are connected at the same height, with the masonry of the gates, beyond which, is a retaining wall extending to high ground, two feet higher than that on the east side. The base of the dam is 18 feet, and the top is 6 feet, covered with dressed granite slabs, one foot thick, full width, laid in Portland cement. Iron gates of modern design and construction, have been built in each end of the dam, with five foot Ludlow sluice-valves and iron liners of the same dimensions; these give a large control, over the surplus water of the river, during freshets, and keeps the pond from filling with sand, near the point of the head gates. A section of the dam is shown on the map, and visitors familiar with such works express themselves in strong terms of approval of its form and strength of masonry.



### THE HEAD GATES

are four in number, 10 feet high and 5 feet wide, clear water opening; built in stone, and brick faced, to secure a smooth flow of water. The superstructure is 24 feet in height from base, and connects with the retaining wall. The gates have wooden guides, strongly bolted to the masonry, and are made of selected wood, heavily framed; each gate is lifted by means of an iron rack, and worm hoisting gear; geared, so that one man can lift each gate. This construction protects the canal against floods or excessive high water, and also enables the water to be drawn from the wheels without drawing the water from the pond.

### THE CANAL

has a minimum section of 200 square feet, being 20 feet wide, and 10 feet at the section; it is enclosed in stone walls, cement faced, and resting on rock bases. The filling behind the walls will be puddled clay.

### THE FOREBAYS

are of stone, 20 feet wide and twelve feet deep, complete with racks and gates.

### WHEEL PITS

are two in number, at the northeast end of the mill building. An extensive excavation, involving much time and considerable expense, had to be undertaken to secure a substantial result; after removing twelve feet of soil, the solid rock was reached, and nearly 600 pounds of dynamite used to blast out this large area, to a depth of more than thirty feet below the level of the ground. Massive walls of masonry have been built here

and every seam pointed up with Portland cement; in developing this work, plans and specifications, embodying the very latest thought and experience in such structures, have been used; the water is discharged through three arched openings of 16 feet, 14 feet and 12 feet respectively, into the tail race, which is six feet deep at the arches, and 35 feet wide. This opening widens out to 80 feet at the river, giving the water free exit, and is enclosed in stone walls.

Every foundation has been carried down to bed rock, and built in the most substantial manner.

#### LABOR FOR THE MILL.

Oconee is the Northwestern County of South Carolina, and is composed of the following townships and populations by last census:

Center Township..	3,464	Wagener . . . . .	3,214
Chatooga . . . . .	711	Tugaloo . . . . .	3,260
Keowee . . . . .	2,179	White Water.....	708
Pulaski.....	658	Seneca . . . . .	4,493
Total.....		18,687	

In natural advantages, Oconee has great possibilities in material progress, abounding in water-powers, with a population desiring employment of this kind. This new enterprise, on Little River, is the only large industry in the county, and will have all the advantages of its isolated position, as there are no mills, nearer than forty miles, on the east; none nearer than twenty-five miles on the south, while on the north and west the whole section is available to draw labor from, in all the region, up to the Blue Ridge and to the Georgia line.

## COTTON PRODUCTION.

The location of the mill is most favorable for obtaining the fine cottons grown in this Piedmont section, which have a reputation on both sides of the Atlantic, and is a primary consideration in making the better class of goods, for which the equipment of this new mill is designed. Every bale of cotton for its supply will come to it on farm wagons from the vicinity of the mill.

## NEIGHBORHOOD ROADS.

As an evidence of the public appreciation of this industrial enterprise, I mention, that the County Commissioners of Pickens and Oconee, recently met here, and after considering the best roads for the accommodation of the people, laid out several, and will unite in building an iron bridge over Keowee River, to accommodate a section of Pickens County coming to Newry.

## DESCRIPTION OF MACHINERY. POWER.

The power will be supplied by two 42-inch Victor Turbines, on horizontal shaft, and in one case of steel; connected to the pulley shaft direct, and driving the mill with 15 Lambeth cotton *ropes*. The above wheels are furnished by the Stilwell, Beirce & Smith Vaile Company. Under the *head* available (22 feet) these wheels will develop 600 horse-power. There is also for fire protection and electric lighting, one 21-inch Victor wheel, connected to the same case as the large wheels, by its steel flume, and used for auxiliary purposes.

### POWER TRANSMISSION.

The shafting, pulleys, hangers, &c., will be made by Jones & Laughlins: their cold rolled shafting, patent compression couplings, and patent ring oiling hangers, and also their pulleys, being used.

### FIRE EQUIPMENT.

Protection from fire will be secured by means of one 1,000 gallon Rotary (Silsby) Fire Pump, and a complete equipment of the Walworth Automatic Sprinklers (by the Walworth Company), in accordance with the requirements of the Mutual Insurance Companies.

### HEATING AND VENTILATING.

The building will be heated and ventilated by the Sturtevant Blower System; an independent engine. operating a fan 7 feet in diameter, with a capacity of over 84,000 cubic feet of air per minute.

### LIGHTING (ELECTRIC).

By the General Electric Company's incandescent system of 400 lights.

### OPENING AND LAPPER ROOMS.

The Opening and Lapper Room Machinery will consist of the latest pattern Self-Feeding Opener, Breaker, Finisher and Intermediate Lappers, made by the Kitson Machine Company.

### CARD ROOM.

The Card Room will be equipped with Pettee Machine Works' Improved Revolving Flat Cards, Coiler

Doubling Heads, and Coiler Drawing Frames (three processes). The doubling heads and drawing frames will have the patent metallic top rolls.

The Slubber, Intermediate and Fine Fly Frames will be furnished by the Woonsocket Machine Company. These machines are built from the City Machine Company pattern, with latest improvements, and will also be supplied with the metallic top rolls.

### SPINNING ROOM.

The Spinning Room will be equipped with the Fales & Jenks Machine Company's Spinning Machinery, No. 49 D Rabbeth Spindles, and all modern improvements.

The Spooling Machinery will be furnished by the Easton & Burnham Machine Company, and will have their new Single Rail Self-Oiling Spindles, with patent holder and guide.

Slasher Warpers are to be furnished by the Hopedale Machine Company. Their latest pattern, with Hicks' Patent Cone Device and Rhodes Doffing Attachment.

### SLASHER ROOM.

Slasher Room Machinery will consist of a Cohoes A No. 1 Howard & Bullough Two Cylinder Slasher; Size Kettle, and Overhead Tramway, with Differential Hoisting Block.

### WEAVE ROOM.

The Weave Room will be supplied with 240 Stafford Latest Patent Convertable Looms, with variable Pick Motion, Patent Let-Off and Parallel Motion.



## CLOTH ROOM.

The Cloth Room will be equipped with the Stafford Combination Cloth Folder; Curtis & Marble Brushing and Calender Machinery, and Boomer & Boschert Knuckle Jointed Baling Press, 250 tons capacity, designed to bale for both domestic and export trade.

In brief, all of the machinery is of the latest and most approved design, arranged with a view to secure the highest practical speed and production consistent with first-class work.

No effort has been spared to make this a model mill in all respects.

## PRODUCT OF THE MILL

will consist of *Fine Sheetings*, of the following mill notation:

Out of yarns from 28's to 40's, goods of Pick & Slay, as follows:

Pick.	Slay.
68 .....	72's.
72 .....	80's.
80 .....	92's.

The above goods may be 40 inches wide, and can be sold in the brown and prepared accordingly, or prepared for bleaching.

The print cloth standard of 64 squares can also be made should it be desirable to do so.

As is seen by this report, the whole power has been developed, equal to over 30,000 spindles and 800 looms, thus making provision for the future in case of need, and has been more economically accomplished now,

than could be done hereafter; the Company has therefore in hand the full power of its property.

Of course this outlay, charged against the present plant of 10,000 spindles and 240 looms, enhances the cost per spindle.

The present building has a capacity of over 15,000 spindles and 400 looms, and it is the purpose ultimately to fill up this vacant space. When this is done the cost per spindle, will be the lowest in the State, of water-power mills.

#### FIRE PROTECTION AND SEWERAGE.

Just opposite the mill, as will be seen on the map, is a hill 100 feet high; the top is level and sufficiently extensive for the location of a reservoir of large size, for fire and sewerage purposes. This great natural advantage will be utilized, and serve as well for the protection of the mill property and village, as for the health of the residents.

#### DOMESTIC WATER SUPPLY.

It is the purpose to conduct the water from the springs to the village for all domestic uses, which will be a great convenience to the operatives and their families.

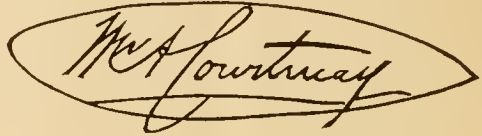
#### THE COTTAGES

Are built of wood, with plastered walls, and ceilings of wood; they are comfortable homes, as I know from living in one of them for months past.

In reviewing the whole work done here, the developed property, now nearing completion, and being made ready for the receipt of the machinery, I express the

confident opinion of its substantial value as an investment.

The mill will be in operation during the coming spring. In the opinion of a New York dry goods merchant handling such goods as will be made here, the entire product can be marketed at remunerative prices as soon as the mill is in operation, and every effort will be made to accomplish this.



*President.*

*Newry, Oconee County, S. C., 23d December, 1893.*



